

What is claimed is:

1. A granular detergent composition having a homogeneity number, HN, as defined by the equation:

$$HN = X_{\text{bulk}}/X_{\text{part}}$$

where X_{bulk} is the ratio of the concentration of a selected detergent ingredient in the particle with the lowest level of said ingredient to the concentration of said ingredient in the particle with the highest level of said ingredient and X_{part} is the ratio of the concentration of a discrete area of a particle with the lowest level of said ingredient to the concentration of the discrete area of the same particle with the highest level of said ingredient, of less than about 0.5 or greater than about 1.

2. The detergent composition as claimed in Claim 1 wherein said selected detergent ingredient is surfactant.
3. The detergent composition as claimed in Claim 1 wherein said homogeneity number is greater than about 1.25.
4. The detergent composition as claimed in Claim 1 wherein at least about 50% by weight of particles having a geometric mean particle diameter of from about 400 microns to about 1500 microns with a geometric standard deviation of from about 1 to about 2, wherein at least a portion of said particles contain a deterative surfactant and a detergent builder.
5. The granular detergent composition of claim 4 wherein said particles comprise at least about 75% by weight of said detergent composition.
6. The granular detergent composition of claim 4 wherein the geometric standard deviation is from about 1.0 to about 1.7.
7. The granular detergent composition of claim 4 wherein the geometric standard deviation is from about 1.0 to about 1.4.

09787452 071304

suba

8. The granular detergent composition of claim 4 wherein said particles comprise at least about 90% by weight of said detergent composition.
9. The granular detergent composition of claim 4 wherein the geometric mean particle diameter of said particles are from about 600 microns to about 1200 microns.
10. The granular detergent composition of claim 4 wherein the geometric standard deviation is from about 1.0 to about 1.2.
11. The granular detergent composition of claim 4 wherein said particles have an aspect ratio less than about 2.
12. The granular detergent composition of claim 4 wherein said particles have an aspect ratio less than about 1.3.

- 09787452-01301
sub
A' cont' 2
13. A process for producing a granular detergent composition comprising the steps of providing a feed stream of detergent particles having at least one detergent active therein, said detergent particles being selected from at least two of the group consisting of spray-dried granules, wet agglomerates, dry agglomerates, detergent adjunct ingredients and mixtures thereof, passing said feed stream through at least one mixer selected from high speed, moderate speed, low speed, and low shear mixers to produce a detergent composition having a homogeneity number, HN, as defined by the equation:

$$HN = X_{\text{bulk}}/X_{\text{part}}$$

where X_{bulk} is the ratio of the concentration of a selected detergent ingredient in the particle with the lowest non-zero level of said ingredient to the concentration of said ingredient in the particle with the highest level of said ingredient and X_{part} is the ratio of the concentration of a discrete area of a particle with the lowest level of said ingredient to the concentration of the discrete area of the same particle with the highest level of said ingredient, of less than about 0.5 or greater than about 1.

14. The process as claimed in Claim 13 wherein said feed stream comprises spray-dried granules and dry detergent agglomerates.

15. The process as claimed in Claim 13 wherein said mixer is a low shear mixer.
16. The process as claimed in Claim 15 further comprising steps of passing said feed stream through a moderate speed mixer prior to passing through said low shear mixer.
17. The process as claimed in Claim 16 wherein a liquid detergent binder is added to either or both of said low shear mixer and said moderate speed mixer to enhance agglomeration of said feed stream.
18. The process as claimed in Claim 13 wherein said homogeneity number is greater than about 1.25.

19970452.07.1204

Pub
A cont's